



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,554	03/20/2001	Houng Joong Kim	503.39902X00	3907

20457 7590 10/29/2002

ANTONELLI TERRY STOUT AND KRAUS
SUITE 1800
1300 NORTH SEVENTEENTH STREET
ARLINGTON, VA 22209

EXAMINER

MULLINS, BURTON S

ART UNIT PAPER NUMBER

2834

DATE MAILED: 10/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/811,554

Applicant(s)

KIM ET AL.

Examiner

Burton S. Mullins

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers


- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 16 October 2001 and 22 October 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.


BURTON S. MULLINS
PRIMARY EXAMINER

DETAILED ACTION

Specification

1. The substitute specification filed with the preliminary amendment on October 16, 2001 has been entered. The objection to the specification regarding the description of the drawings is withdrawn.

Drawings

2. The proposed amendments to the drawings received on October 16, 2002 and October 22, 2002 have been received. These changes are approved. The objection to the drawings is withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, line 10, recitation "whether a space on a side face of a back yoke portion of said stator core..." makes no sense. On line 12, recitation "and an other with said second armature winding" is indefinite and makes no sense. What is the "other"? Another winding? Which winding?

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1 and 3-4, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Broadway et al. (US 3,673,477). Broadway teaches a motor stator comprising a stator core (not shown, with slots 1-36, Fig.1C) having an even number of slots (eight) per pole per phase; and three-phase armature windings A/B/C contained in said slots (Fig.1C), said armature windings being wound in a single layer distributed winding (Fig.1C), wherein one of said slots arranged between two of said slots containing a first armature winding (e.g., slots 1 and 8 containing first armature winding phase A) contains a second armature winding for a phase different from a phase of said first armature winding (slot 3 containing second armature winding phase -C), and one of said slots arranged between said two of slots containing said first armature winding contains a third armature winding (slot 2 containing third armature winding phase -C) for a phase equal to the phase of said second armature winding, wherein one of the said second armature winding and said third armature winding is arranged in a coil end portion in an outer peripheral side of said first armature winding A (-C in slot 3 is in the "upper layer" Fig.1C) with the other arranged in an inner peripheral side of said first armature winding A (-C in slot 2 is in the "lower layer" Fig.1C).

Regarding claim 3, as best understood, the coil ends of the coils in Broadway are arranged at the side faces of the yoke portions.

Regarding claim 4, the motor of Broadway inherently includes a rotor.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 2, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Broadway in view of Kakutani et al. (US 6,141,865). Broadway does not teach details of the stator coil manufacture. Kakutani teaches a method of manufacturing a divided stator comprising laminated stamped segments 14 (Fig.6) inserted into openings 48 formed by jig 34 to form a cylindrical shape, wherein the segments 14 contain the windings 16 spread out over the divided core and located in the individual slots between the segments. The apparatus and method of Kakutani makes possible an efficient winding operation.

It would have been obvious to provide a method of divided stator manufacture per Kakutani for the motor of Broadway since it would have been desirable to efficiently wind the motors during manufacture.

9. Claim 5, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Broadway in view of Auinger (US 4,127,787). Broadway teaches a "mover," i.e., a rotor, but does not teach a linear motor configuration for the motor, per se.

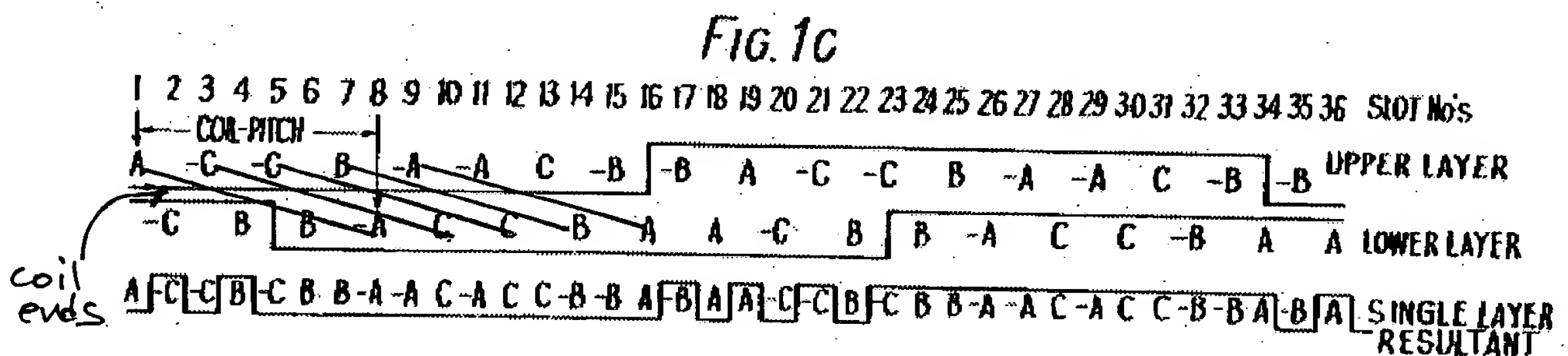
Auinger teaches three-phase, induction linear motor with windings capable of pole-changing. Further, Auinger teaches that a rotary machine may also be converted to a linear machine (c.18, lines 31-34).

Art Unit: 2834

It would have been obvious to one of ordinary skill to modify Broadway and provide a linear motor since, as disclosed by Auinger, rotary machines may be converted to linear machines.

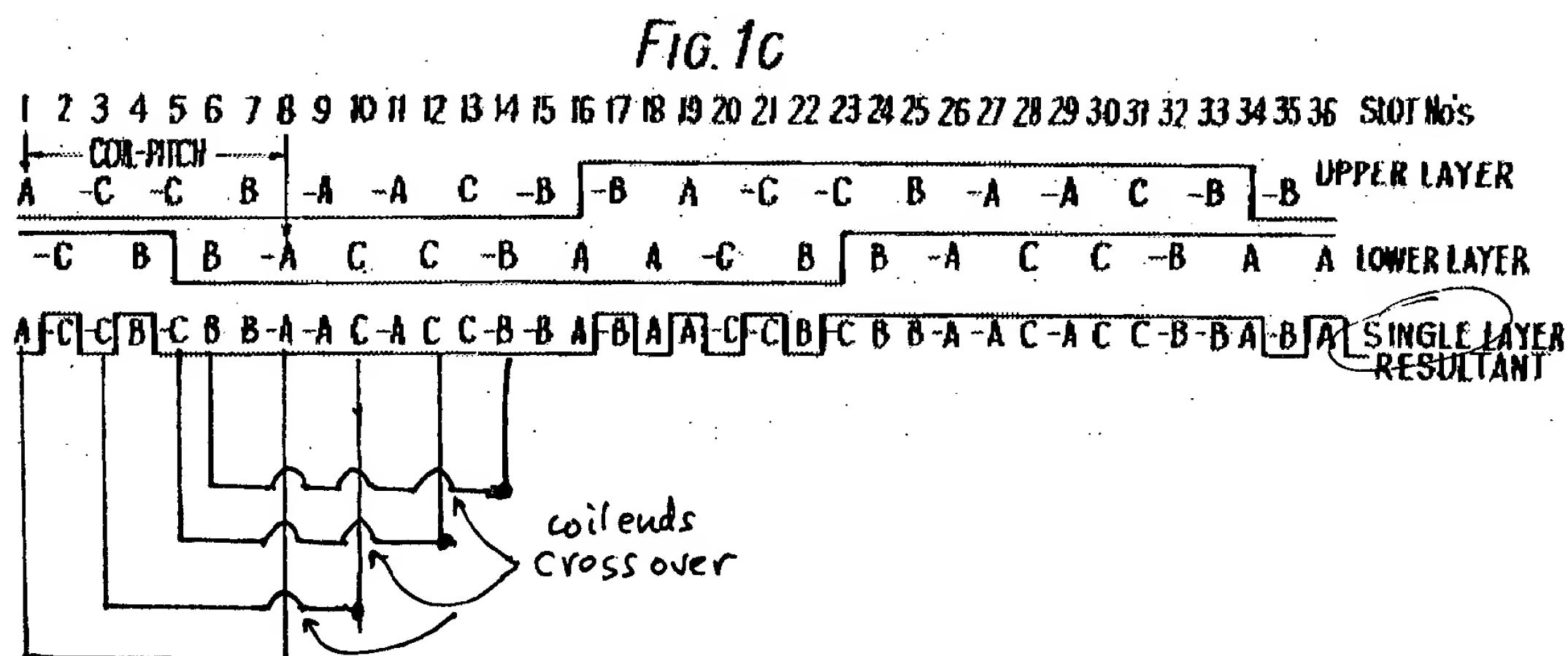
Response to Arguments

10. Applicant's arguments filed October 15, 2002 have been fully considered but they are not persuasive. Applicant argues that Broadway teaches a winding arrangement similar to that shown in applicant's prior art Fig.10(b), where there is only one phase in each peripheral layer. However, the embodiment of Fig.1C of Broadway shows an arrangement of a three-phase, single layer winding in which the single layer comprises windings of all three phases A-C and which are further arranged so as to satisfy applicant's claimed relationship. Note that the coil pitch is 7, meaning that, for example, the phase coil section A in the "upper" layer in slot 1 travels to the "lower" layer coil (-A) in slot 8. Similarly, coil -C in the upper layer of slot 3 travels to the lower layer of slot 10 (C), and so forth. The end turns connecting the coil sections A/A-, -C/C, -C/C, B/-B, etc. are parallel with one another, slanted at an angle. See Broadway's Fig.1C below.



Art Unit: 2834

If the coils were arranged as shown in applicant's Fig. 10(b), as applicant asserts, each coil end would have to cross over another at some point, when viewed along the axial direction; however, this would result in a multi-layer winding. See the modified Fig. 1C of Broadway below. Broadway specifically states that the winding is single layer. Therefore, the Broadway windings do not overlap as applicant suggests.



Regarding applicant's argument that Broadway's disclosure does not teach applicant's invention, it has been held that "[t]he use of patents as references is not limited to what the patentees describe as their own inventions or to the problems with which they are concerned. They are part of the literature of the art, relevant for all they contain." *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed.Cir.1983). See MPEP 2123. In this case, Broadway Fig. 1A-1C and c.2, lines 46-75 describes what is taught by "U.S. Pat. No. 988,726." The patent corresponding to this number, however, is heating apparatus and has

Art Unit: 2834

nothing to do with motors or windings. Since the patent cited by Broadway is not available due to what appears to be a typographical error, the teaching in Broadway is applied.

Conclusion


11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Burton S. Mullins whose telephone number is 305-7063. The examiner can normally be reached on Monday-Friday, 9 am to 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 305-1341 for regular communications and 305-1341 for After Final communications.

Art Unit: 2834

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0956.


Burton S. Mullins
Primary Examiner
Art Unit 2834

bsm
October 24, 2002